

REMARKS / DISCUSSION OF ISSUES

The present amendment is submitted in response to the Office Action mailed March 4, 2009. Claims 1-17 are pending in this application. Claims 1 and 10-11 are amended.

Specification Objection

In the Office Action, the Specification was objected to for a non-descriptive title. The title has been replaced with a new title. It is believed the new title is clearly indicative of the invention to which the claims are directed. Withdrawal of the objection is respectfully requested.

Drawing Objection

In the Office Action, the drawings were objected to for failing to comply with 37 CFR 1.21(d) because FIG. 2 should be designated by a legend such as –Prior Art --. Applicants respectfully request withdrawal of the drawings objection and approval of the enclosed proposed drawing change including a proper labeling of FIG. 2.

II. Claim Rejections under 35 USC 102

In the Office Action, Claims 1-4, 6, 8-13 and 15-17 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 2004/0085270 (“Kimura”). Applicants respectfully traverse the rejections.

I. Claims 1-4, 6 and 8-10 are allowable

The cited portions of Kimura do not anticipate claim 1, because the cited portions of Kimura fail to disclose every element of claim 1. For example, the cited portions of Kimura fail to disclose or suggest “*a reference driver circuit (30), wherein the reference driver circuit (30) is for dynamically calibrating at least one of the controllable driver circuits whilst the other controllable driver circuits provide inputs to the data conductors*”, as recited in claim 1. Instead, the cited portions of Kimura disclose a signal-line drive circuit having a current source circuit that carries a desired constant current with reduced effects of characteristic

variations in TFTs. The current source circuit inputs a desired current to the light emitting element, regardless of the characteristics of the TFTs for driving the light emitting element. *See Kimura, par. 35.* Kimura overcomes the problem associated with variations in the electrical characteristics of polysilicon transistors (i.e., TFTs). Specifically, when a video signal is input to a gate electrode of a driving TFT, a gate-source voltage is determined, and a current flowing between the source and the drain of the driving TFT is determined. This current is supplied to the light emitting element which emits light. However, the TFT is prone to variation in electrical characteristics, such as a threshold value and an ON current, due to defects in the grain boundary. As such, even when identical video signals are input to the TFT, the magnitudes of the corresponding drain currents of the driving TFTs are different. Thus, the luminance of the light emitting element varies. *See Kimura, par. 8.* Therefore, it is shown that Kimura provides a signal line drive circuit having a current source circuit which provides a desired signal current I_{data} in which the effects of the characteristic variations of the TFTs is reduced. *See Kimura, par. 405.* It is respectfully submitted that Kimura is silent with respect to performing a calibration of any kind. Instead, the current source circuit of Kimura merely reduces the effects of the characteristic variations of the driving TFTs by ensuring that the TFTs receive a predictable signal current as input.

In sharp contrast to Kimura, the invention solves a different problem in a different way. In accordance with the invention, a reference driver circuit comprising a reference current source **dynamically calibrates driver circuits** so as to reduce the spread in the output of current source circuits. As described in the specification at pages 9-10, with respect to Fig. 3, during a first time period, a first current source 32 (I_{cal}), **is adjusted** to draw exactly the same current (I_{ref}) as the reference current source 30. During this first time period, while current source 32 is being **dynamically calibrated** by means of the adjustment, the other current source 34, delivers the output current (I_{out}) to activate the pixel in the single column. Thereafter, during a second time period, the two current sources are interchanged, and while current source 34 is being **dynamically calibrated**, in the manner described above, current source 32 delivers the output current.

Based on the foregoing, it is respectfully submitted that claim 1 is allowable.

Claims 2-4 and 8-10 depend from claim 1, which Applicant has shown to be allowable. Hence the cited portions of Kimura fail to disclose or suggest at least one element of each of claims 2-4 and 8-10. Accordingly, claims 2-4 and 8-10 are also allowable, at least by virtue of their dependence from claim 1.

II. Claims 11-13 and 15-17 are allowable

Independent Claim 11 recites similar subject matter as Independent Claim 1 and therefore contains the limitations of Claim 1. Hence, for at least the same reasons given for Claim 1, Claim 11 is believed to recite statutory subject matter under 35 USC 102(e).

Claims 12-13 and 15-17 depend from claim 11, which Applicant has shown to be allowable. Hence the cited portions of Kimura fail to disclose or suggest at least one element of each of claims 12-13 and 15-17. Accordingly, claims 12-13 and 15-17 are also allowable, at least by virtue of their dependence from claim 11.

III. Claim Rejections under 35 USC 103

The Office has rejected claims 5, 7 and 14 under 35 U.S.C. §103(a), as being unpatentable over Kimura. Applicant respectfully traverses the rejections.

A. Claims 5, 7 and 14 are Allowable

As explained above, Kimura does not disclose or suggest each and every element of claims 1 and 11, from which claims 5, 7 and 14 depend, respectively. Specifically, the cited portions of Kimura fail to disclose or suggest “*a reference driver circuit (30), wherein the reference driver circuit (30) is for dynamically calibrating at least one of the controllable driver circuits whilst the other controllable driver circuits provide inputs to the data conductors*”, as recited in claims 1, and further fails to disclose or suggest “*simultaneously dynamically calibrating the remaining at least one further controllable driver circuit (32,34,40) using a reference driver circuit (30)*”, as recited in claim 11. Therefore, Kimura does not disclose each and every element of claims 1 and 11, from which claims 5-7 and 14 depend, respectively. Hence, claims 5-7 and 14 are allowable.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-17 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Mike Belk, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-945-6000.

Respectfully submitted,



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